The granulosa cells (GCs) have a role in the oocyte development and follicle growth and, therefore, are contributors to oocyte quality. GCs differentiate in mural GCs, lining the follicle, and cumulus oophorus cells (CCs), that surround the oocyte in a close and tight relationship. The oocyte synthesizes and releases oocyte-secreted factors (OSFs) such as GDF9 and BMP15, measurable in the follicular fluid. This OSFs mediate the activation of SMADs and MAPK pathways through the activation of TGFβ family receptors in CCs. However, the mechanisms involved are not yet completely understood. As primary cell cultures are difficult to establish and cell lines behave in a more predictable way, we reasoned that the use of a GC cell line would increase our knowledge about folliculogenesis.

Due to the similarity of GC1a cell line with CCs, this cell line was employed as a tool to study the interaction between oocytes and CCs. However this cell line was never characterized, it is our aim to approach that in order to increase our understanding about the mechanism involved in oocyte quality.

With this work we pretend:
- To characterize the presence of OSFs and their receptors in GC1a cell line;
- To analyze the influence of follicular fluid in growth and morphology of GC1a cells in culture.

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**Reference**